

What is claimed is:

- 1 1. A work-management method comprising:
 - 2 determining a probability of availability at a future point in time
 - 3 of each of a plurality of resources;
 - 4 combining the probabilities to obtain a number; and
 - 5 using the number to schedule new tasks for the resources for
 - 6 the future point in time.
- 1 2. The method of claim 1 wherein:
 - 2 using comprises
 - 3 scheduling for the future point in time no more than the number
 - 4 of the new tasks to become available for servicing by the plurality of the
 - 5 resources.
- 1 3. The method of claim 1 wherein:
 - 2 combining comprises
 - 3 summing the probabilities to obtain the number.
- 1 4. The method of claim 1 wherein
 - 2 determining comprises
 - 3 for each of the resources, determining an amount of time t that
 - 4 the resource has been servicing a task by now;
 - 5 for each of the resources, determining a probability $F(t+h)$ of
 - 6 the resource servicing its task to completion within a total amount of time
 - 7 $t+h$;
 - 8 for each of the resources, determining a probability $F(t)$ of the
 - 9 resource completing servicing its task by now; and
 - 10 for each of the resources, determining a probability P that the
 - 11 resource will complete servicing its task at the future point in time an

12 amount of time h from now as $\frac{F(t+h)-F(t)}{1-F(t)}$.

1 5. The method of claim 1 in a call center wherein:
2 tasks comprise calls; and
3 scheduling comprises
4 in response to P , determining whether or not to initiate or
5 cancel an outbound call.

1 6. A work-management method comprising:
2 determining an amount of time t that a resource has been
3 servicing a task by now;
4 determining a probability $F(t+h)$ of the resource servicing the
5 task to completion within a total amount of time $t+h$;
6 determining a probability $F(t)$ of the resource completing
7 servicing the task by now;
8 determining a probability P that the resource will complete
9 servicing the task within an amount of time h from now as $\frac{F(t+h)-F(t)}{1-F(t)}$;
10 and
11 in response to P , scheduling another task for servicing.

1 7. The method of claim 6 wherein:
2 scheduling comprises
3 in response to P , determining whether or not to initiate said
4 another task.

1 8. The method of claim 6 in a call center wherein:
2 tasks comprise calls; and
3 scheduling comprises
4 in response to P , determining whether or not to initiate an

5 outbound call.

1 9. The method of claim 6 further comprising:

2 performing the determining steps for a plurality of resources,

3 and

4 determining a number of the resources that will likely have

5 completed servicing their respective tasks within the amount of time h

6 from now as a sum of the probabilities P determined for individual ones of

7 the plurality of resources; wherein

8 scheduling comprises

9 in response to determining the number of the resources,

10 scheduling new tasks for servicing.

1 10. The method of claim 9 wherein:

2 scheduling tasks for servicing comprises scheduling no more

3 than the number of the tasks for servicing.

1 11. The method of claim 6 wherein:

2 determining a probability $F(t+h)$ comprises

3 obtaining historical task-completion statistics, and

4 from the obtained statistics determining the probability $F(t+h)$;

5 and

6 determining a probability $F(t)$ comprises

7 from the obtained statistics determining the probability $F(t)$.

1 12. The method of claim 11 wherein:

2 obtaining historical task-completion statistics comprises

3 obtaining a mean and a variance of time historically spent by

4 resources on servicing tasks to completion.

1 13. The method of claim 6 wherein:

2 determining a probability $F(t+h)$ comprises
3 obtaining historical task-completion statistics,
4 fitting the task-completion statistics into a lifetime closed-form
5 cumulative-probability distribution to determine parameters of the
6 distribution, and
7 evaluating the distribution with the determined parameters and
8 the total amount of time $t+h$ to obtain $F(t+h)$; and
9 determining a probability $F(t)$ comprises
10 evaluating the distribution with the determined parameters and
11 the amount of time t to obtain $F(t)$.

1 14. The method of claim 13 wherein:
2 obtaining historical task-completion statistics comprises
3 obtaining a mean and a variance of time historically spent by
4 resources on servicing tasks to completion;
5 the cumulative-probability distribution F comprises a Weibull
6 distribution; and
7 the parameters comprise a dispersion parameter and a
8 parameter of central tendency.

1 15. The method of claim 6 wherein:
2 determining an amount of time t comprises
3 determining the amount of time t that the resource has been
4 servicing a task of one of a plurality of different types of tasks; and
5 determining historical task-completion statistics comprises
6 determining the historical task-completion statistics for the one
7 type of tasks.

1 16. The method of claim 6 wherein:
2 scheduling another task comprises

3 in response to P initiating preparation of a task that may require
4 servicing by an agent at a later time.

1 17. The method of claim 6 wherein:
2 determining a probability $F(t+h)$ comprises
3 obtaining a historical histogram for task completion, and
4 evaluating a cumulative said probability with the obtained
5 histogram for the total amount of time $t+h$ to obtain $F(t+h)$; and
6 determining a probability $F(t)$ comprises
7 evaluating the cumulative probability with the obtained
8 histogram for the amount of time t to obtain $F(t)$.

1 18. The method of claim 6 wherein:
2 scheduling comprises
3 in response to P , canceling preparation of a task that could
4 require servicing by a resource.

1 19. An apparatus that effects the method of one of claims 1-18.

1 20. A computer-readable medium containing instructions
2 which, when executed in a computer, cause the computer to perform the
3 method of one of claims 1-18.

1 21. A work-management apparatus comprising:
2 means for determining a probability of availability at a future
3 point in time of each of a plurality of resources;
4 means cooperative with the determining means for combining
5 the probabilities to obtain a number; and
6 means cooperative with the combining means for scheduling
7 for the future point in time no more than the number of new tasks for
8 servicing by the plurality of the resources.

- 1 22. A work-management apparatus comprising:
2 means for determining an amount of time t that a resource has
3 been servicing a task by now;
4 means cooperative with the time-determining means for
5 determining a probability $F(t+h)$ of the resource servicing the task to
6 completion within a total amount of time $t+h$;
7 means cooperative with the time-determining means for
8 determining a probability $F(t)$ of the resource completing servicing the task
9 by now;
10 means cooperative with both of the probability-determining
11 means for determining a probability P that the resource will complete
12 servicing the task within an amount of time h from now as $\frac{F(t+h)-F(t)}{1-F(t)}$;
13 and
14 means cooperative with the P -determining means and
15 responsive to P for scheduling another task for servicing.